

Emission reduction in stationary power generation

- **Expansion: Emitec expands its activities to the distributed power generation sector**
- **Portfolio: Demand-oriented exhaust systems for a range of applications, from engines with an output of less than 50 kW to large units with a module output of several MW**
- **Market leadership: Emitec's highest-quality production equals OEM standards in the automotive industry**
- **Flexibility: Optimised systems for fossil and renewable fuels**
- **Cost savings: A maximum reduction of formaldehyde emissions qualifies for bonus income in accordance with the Renewable Energy Sources Act**

The Agritechnica 2011 in Hanover, which has become the world's largest exhibition for agricultural machinery, provides Emitec with a perfect platform to present its latest developments. 'Emission Control in Stationary Power Generation' is the cue for the company's major expansion in this market segment.

As a result of the developments in energy policy in Germany and in some neighbouring countries over the last few months, Emitec has increased its activities in this area. The politically motivated closure of nuclear power stations will leave an energy gap that cannot be filled by new coal-fired power stations because of public objection to their construction and federal CO₂ targets.

So, there is a need for alternative power generation, preferably using natural gas. Distributed power generation, for instance, by combined heat and power plants, is a step into the politically desired direction. These plants can be built quickly and can use various fuels. They also have the potential to raise the overall efficiency of electricity generation to between 60 % and 70 % through the local use of waste heat.

Consequently, there are good reasons to get more involved in this area. It goes without saying that this form of power generation has to comply with high environmental standards because even gas engines emit nitrogen oxides (NO_x), carbon monoxide (CO), unburned hydrocarbons and, in some

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cases, also formaldehyde, which is subject to particularly stringent emission requirements.

Emitec has developed a compelling solution to emission reduction problems with efficiency rates of well over 90 %.

A unique position in the supply of high-quality emission control systems for distributed power generation

Emitec, a developer and supplier of exhaust gas aftertreatment components and systems, is a world leader on the metal substrate market for exhaust gas catalysts and metallic diesel particulate filters for passenger cars, trucks and non-road vehicles.

At **stand A 51 in hall 13**, the company will be presenting special emission control components and systems for large stationary gas engines and engines that run on biofuels and vegetable oil. Further applications, from small, stationary engines to large engines with a module output of several MW, will be added to the product range in future.

The unique selling point for the development and supply of these high quality stationary systems is the result of several decades of Emitec's automotive experience. More than 150 million metal substrates and particulate filter systems of the highest quality with a unique operating report: zero field failures. Until now, the standard approach to project planning for stationary systems has been based on the individual design of systems and involved complex engineering with the associated costs. These systems were then modified to meet the requirements of other project applications. This method is inherently prone to errors and increases the complexity of installation and commissioning. Emitec uses tried and tested components designed specifically for this type of application, which have proofed their inherent durability in dynamic and highly demanding engine applications. It is a decisive advantage that these applications are much less expensive because they are manufactured on high volume production lines.

The use of biogas and plant oils presents an additional challenge because these fuels contain potential catalyst poisons that can reduce the service life of the emission control system.

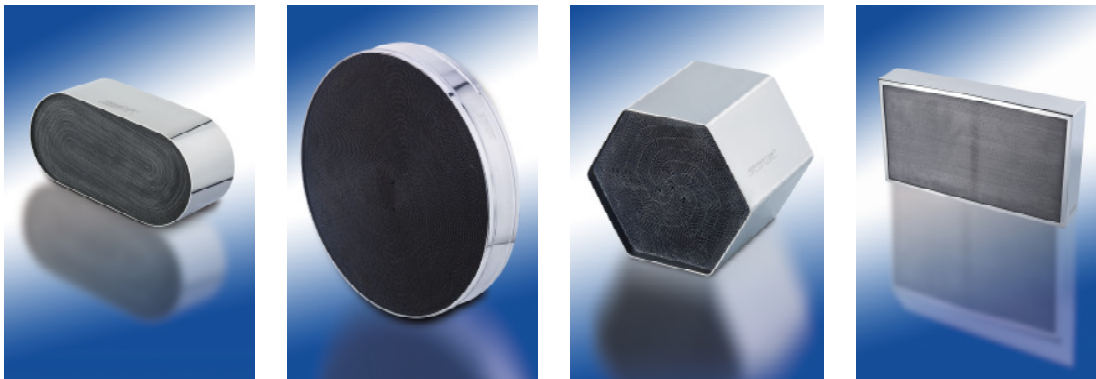
Current fuel standards do not limit the concentration of these escort substances to a sufficient extent so that emission control systems for biogas and plant oil have to be specially optimised. Based on many years of experience in various areas of exhaust gas aftertreatment, Emitec can rely on an overall concept for high performance catalysts with adapted coating technology to ensure long-term and cost-effective system operation.

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A positive aspect in terms of cost effectiveness is that operators of these stationary systems may be eligible for additional feed-in reimbursements. The Federal Ministry for the Environment has set the target to promote renewable fuels and to substantially reduce formaldehyde emissions. Emitec's compact, highly-durable catalyst substrates with special coating and high catalytic efficiency are available on the market at cost-effective conditions. A substantial reduction in formaldehyde emissions means that operators receive an additional bonus of 1 cent per kWh in accordance with the Renewable Energy Sources Act. This may not sound like much at first but even for an average engine with an output of 300 kWh and an annual operating time of 5,000 hours this amounts to an additional 15,000 euros per year.



Highly-efficient catalysts, specific modular solutions for all power ratings, optimized for fossil fuels or operation on bio gas and bio oils



SCR-Dosing Systems

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